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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,195	10/30/2001	Kenneth S. Collins	306 D12	1196

32588 7590 07/25/2003

APPLIED MATERIALS, INC.
2881 SCOTT BLVD. M/S 2061
SANTA CLARA, CA 95050

EXAMINER

ALEJANDRO MULERO, LUZ L

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 07/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,195

Applicant(s)

COLLINS ET AL.

Examiner

Luz L. Alejandro

Art Unit

1763

mk-8

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Terminal Disclaimer

The terminal disclaimer filed on 4/28/03 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent 6,077,384 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-17 and 19-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Sandhu, U.S. Patent 5,599,396.

Sandhu shows the invention as claimed including for use in a plasma reactor including a plasma reactor chamber 20, a workpiece support 36 for holding a workpiece inside said chamber during processing and an inductive antenna 35; a window electrode 30 proximal a wall of said chamber and comprising a portion of said wall and said ceiling, said antenna 35 and wall 30 being positioned adjacently and said antenna facing said support, said window electrode being operable as: a capacitive electrode

accepting RF power from a RF power source (see fig. 1) to capacitively couple plasma source power into the chamber; and a window electrode passing RF power therethrough from said antenna into said chamber to inductively couple plasma source power into the chamber, said window electrode comprising a sidewall portion of said reactor enclosure generally perpendicular to and surrounding said support (see fig. 1 and its description).

With respect to claim 2, note that the material used in the electrode to impart conductivity can range in conductivity from insulating to conducting which encompasses semiconducting properties.

Concerning claims 4 and 7, note that the RF power supply is connected to the workpiece support 36 and the window electrode 30.

Regarding claim 8, the claims are directed to method limitations instead of apparatus limitations and since an apparatus is being claimed as the instant invention, the method teachings are not considered to be the matter at hand, since a variety of methods can be done with the apparatus. The method limitations are viewed as intended uses which do not further limit, and therefore do not patentably distinguish the claimed invention. The window electrode of the apparatus of Sandhu is capable of operating simultaneously as a window to the antenna and as a counter electrode to the support (see, for example, col. 2-lines 35-41).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu, U.S. Patent 5,599,396 as applied to claims 1-17 and 19-27 above, and further in view of Wolf et al., "Silicon Processing for the VLSI Era Volume 1: Process Technology".

Sandhu is applied as above but fails to expressly disclose the semiconductor electrode being composed of silicon. Wolf et al. discloses that electrodes in plasma processing apparatuses can be composed of a variety of materials including silicon (see paragraph bridging pages 568-569). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify

the apparatus of Sandhu as to comprise a silicon electrode because Wolf et al. teaches this is a suitable type of electrode for a plasma processing apparatus.

Response to Arguments

Applicant's arguments filed 4/28/03 with respect to the Sandhu reference, U.S. Patent 5,599,396, have been fully considered but they are not persuasive. Applicant argues that Sandhu fails to disclose the limitations of claim 1 including, "a window electrode capable of being simultaneously a window for inductive power AND an electrode". However, this limitation is contained in claim 8 but is not contained in independent claim 1. Additionally, the second embodiment of Sandhu allows for the limitation disclosed above since the polymer remains in the window during the inductive coupling and has its conductivity varied by external means during the inductive coupling to create an electrode if desired. Concerning the Blalock reference, U.S. Patent 5,779,849, applicant's arguments and supporting declaration under 37 CFR 1.132 are persuasive and the rejections using this reference have been withdrawn.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luz L. Alejandro whose telephone number is 703-305-4545. The examiner can normally be reached on Monday to Thursday from 7:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 703-308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Luz L. Alejandro
Primary Examiner
Art Unit 1763

July 23, 2003